IT Unit 3

Topic 1

# Organisations & Data Management

**Database design tools, p 36**

1. Explain why design is an important step in creating a solution.

* It allows us to work out what the scope of our solution is, and it also makes us plan our method in how we are going to create our solution. In this stage we need to consider the materials, method and appearance of it and also decide what it can and can’t do.

**Naming conventions**

1. What is the importance of planning out naming conventions before you begin developing the solution?

* We do this so that it can be easily identified by a developer or a user.

List examples of naming conventions for a database.

* Prefixes for you four objects Tbl for tables, Qry for Queries, Frm for Forms and Rpt for Reports.

1. What is to be avoided and how is readability assisted?

* Avoid spaces and underscores in object names, and to aid readability, a mix of uppercase and lowercase characters is used in each name.

1. Describe the purpose of the following design tools:
   1. data dictionary

* To formalise the fields and their data type, format and size, this gives a developer a precise explanation of how each field should be set up in each table.
  1. data structure diagram
* Used to indicate the relationships that exist between the specific tables of a planned database so that the developer will know how the tables ought to be linked.
  1. entity-relationship diagram
* Used by database designers to establish the interrelationships between different data elements. Once entities have been determined and their attributes identified, an ERD is created to show how the entities relate to each other (one-to-one, one-to-many or many-to-many).
  1. IPO chart
* Charts/Diagrams used to identify inputs, outputs and the processing steps required to transform raw data in useful and meaningful information.
  1. query design and layout diagram
* Query design: Should specify the fields to be included and the tables to which they belong. The design will also include the criteria for the query and how the resulting records are to be ordered.
* Layout diagram: A sketch that shows the elements to be included on an input form; the diagram should indicate the placement of fields and labels, the fonts to be used and any graphics or other elements to be included.

1. What is the purpose of test data? What should be considered when developing test data?

* It’s to ensure that the solution is functioning correctly by comparing it to what was planned in the design stage with test data. Test data should test all aspects of the solution including identification and handling of unreasonable, missing or incorrect data (validation), formulas and summary totals.

Give some examples of electronic validation that can be established using database software

* Range checks, spell checking, grammar checking, predefined lists, data type checks, input masks, alignment and IIF () statements.